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College of Agriculture and Home Economics  
THE OHIO STATE UNIVERSITY

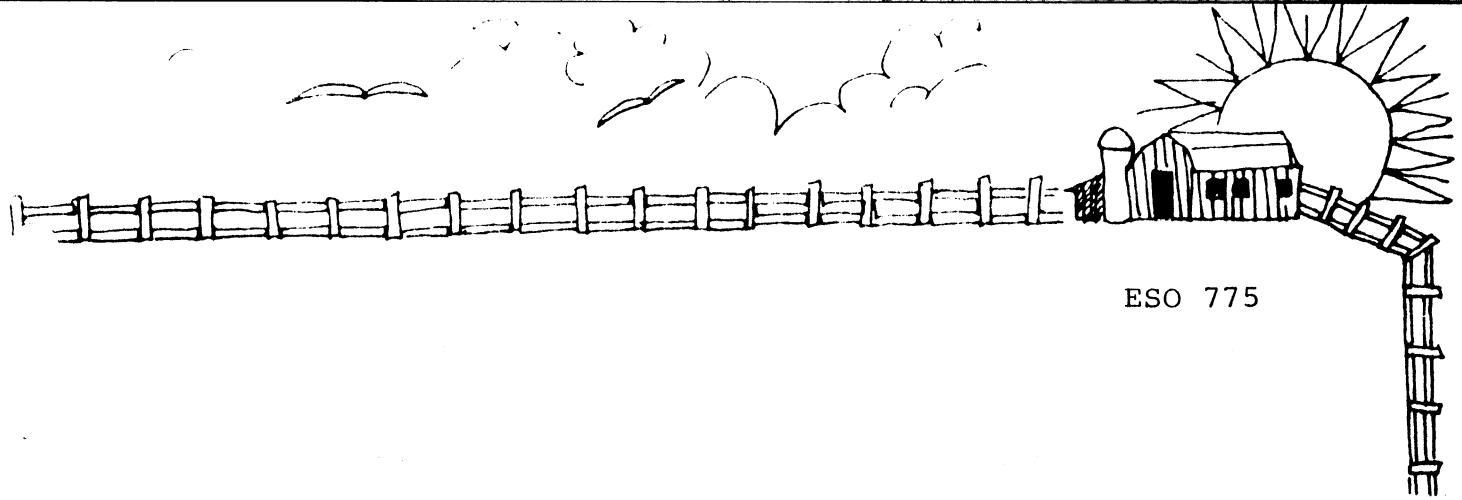
FARM ENTERPRISE SELECTION

By

Allan E. Lines

ESO 775

Department of Agricultural Economics and Rural Sociology  
Ohio Agricultural Research and Development Center



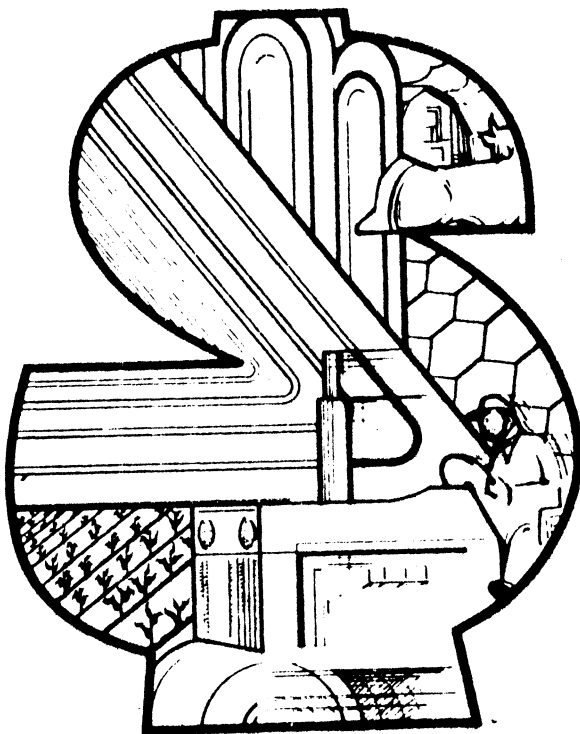
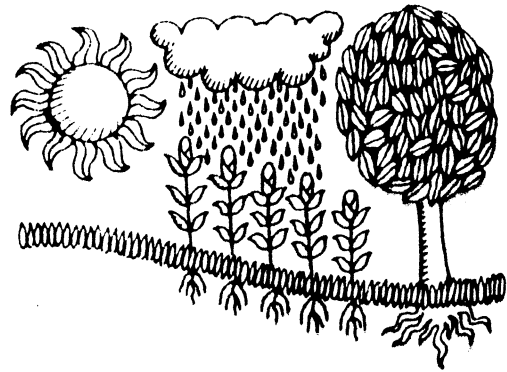
ESO 775

FARM ENTERPRISE SELECTION  
OR  
WHY CORN AND COWS IN OHIO?  
OR  
WHY SPECIALIZATION?

# DETERMINANTS OF AGRICULTURAL PRODUCTION

## PHYSICAL

CLIMATE  
TOPOGRAPHY  
SOILS  
BIOLOGICAL



## ECONOMIC

COMPARATIVE ADVANTAGE  
MARKETS

# CLIMATE

LEVEL AND VARIATION OF VARIABLES

RAINFALL

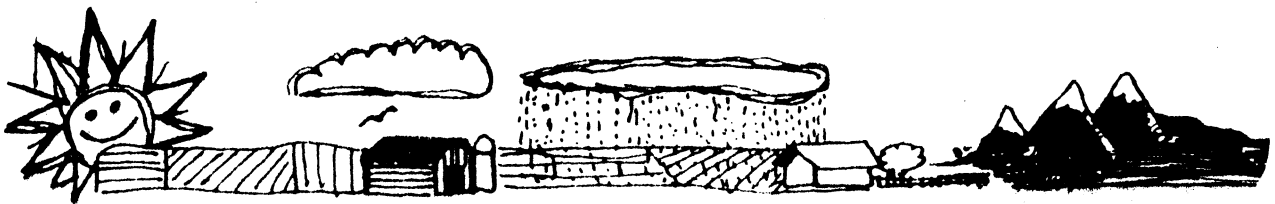
LOW / HIGH  
PREDICTABLE / UNPREDICTABLE  
IRRIGATION

TEMPERATURE

EXTREMES  
MODERATION  
GROWING SEASON

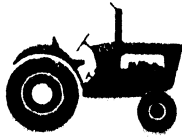
SUNLIGHT

LONG / SHORT



## TOPOGRAPHY

LAY OF THE LAND



MODERN FARM MACHINERY  
ANIMAL / MACHINE HARVEST  
AIR DRAINAGE  
SURFACE DRAINAGE

## SOIL

TEXTURE

CLAY - LOAM - SAND - GRAVEL

WATER HOLDING CAPACITY

EFFECT ON CROP

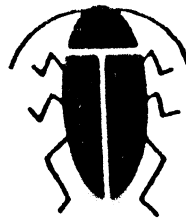


## BIOLOGICAL

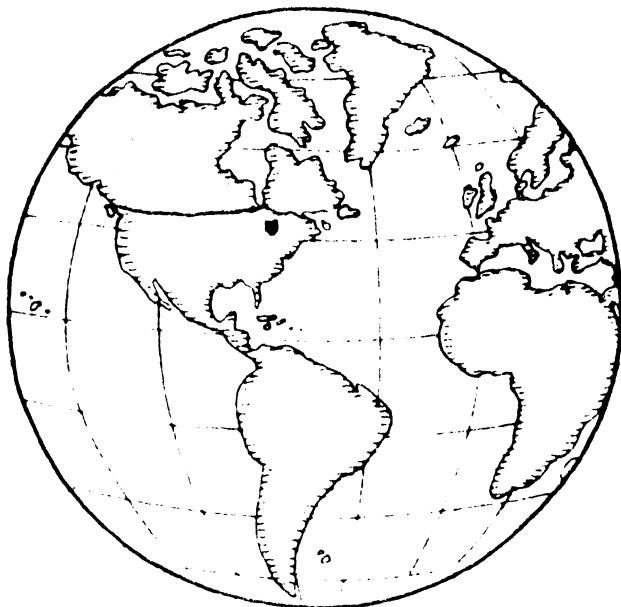
INSECTS

DISEASE

VARIETIES



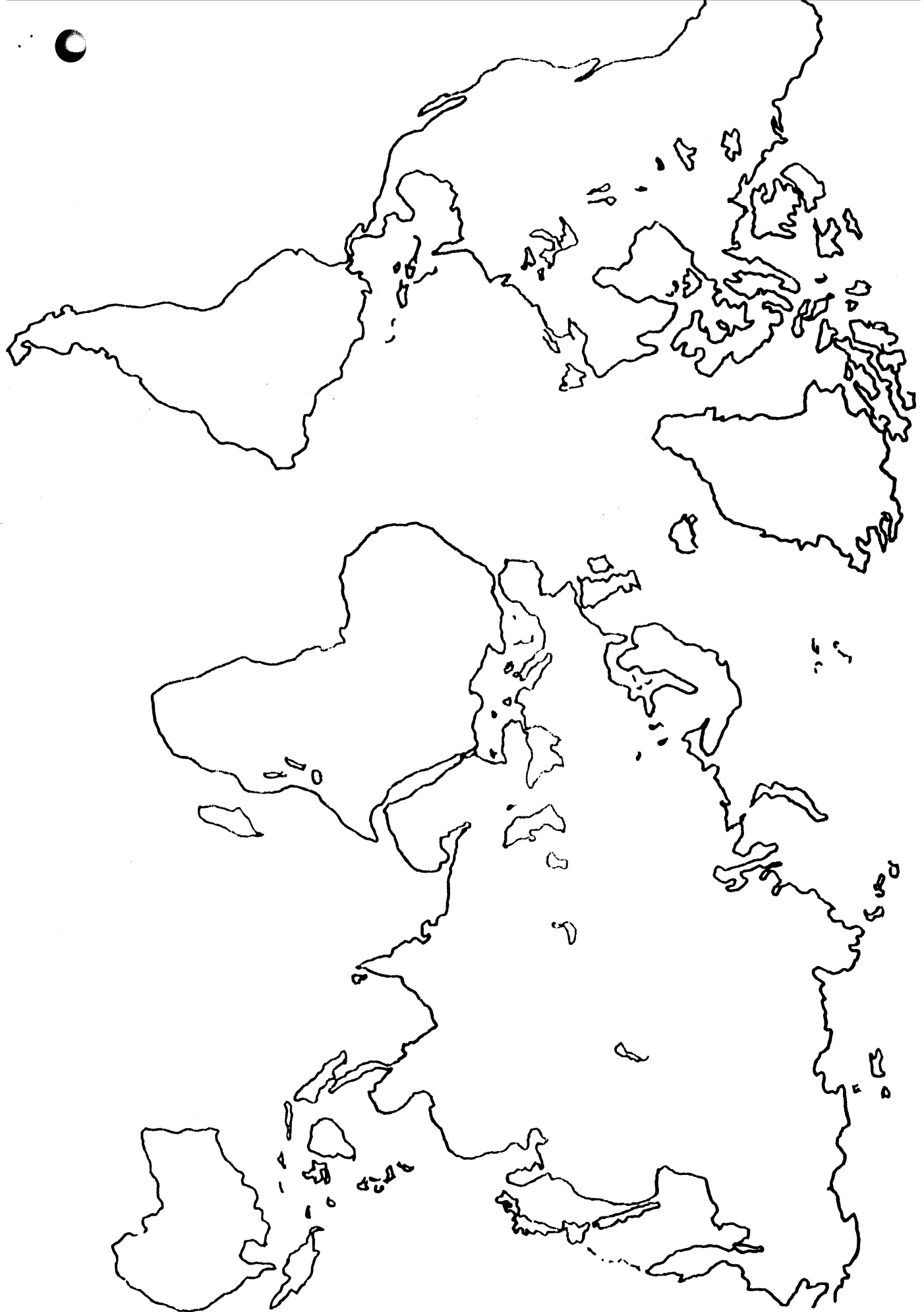
WHAT HAVE FARMERS DECIDED?

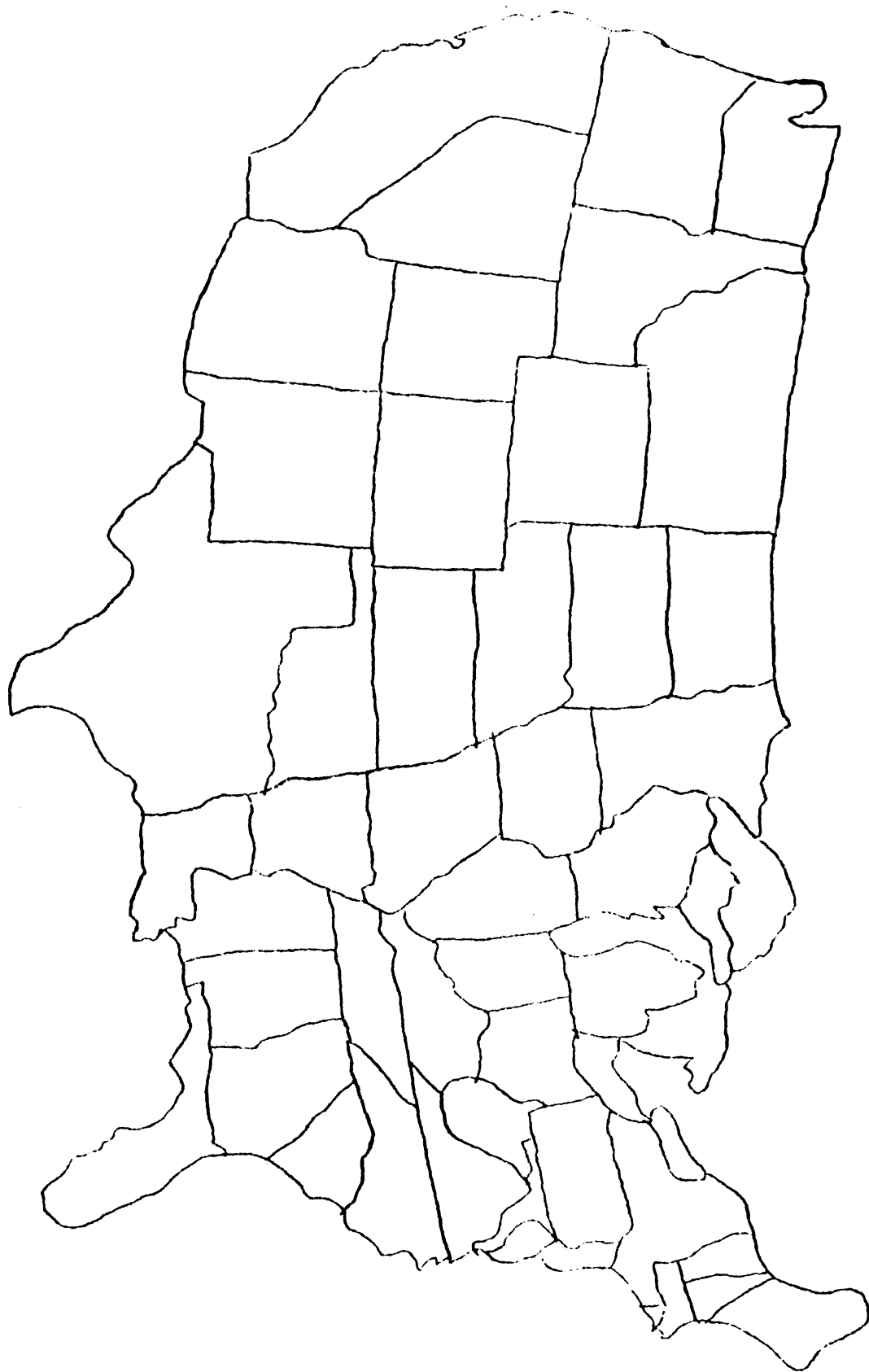


WORLD

U. S.

OHIO





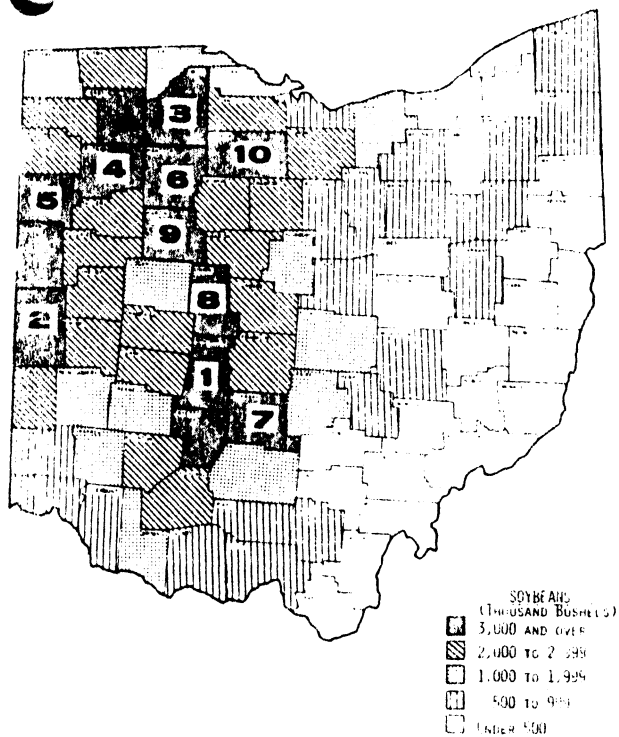




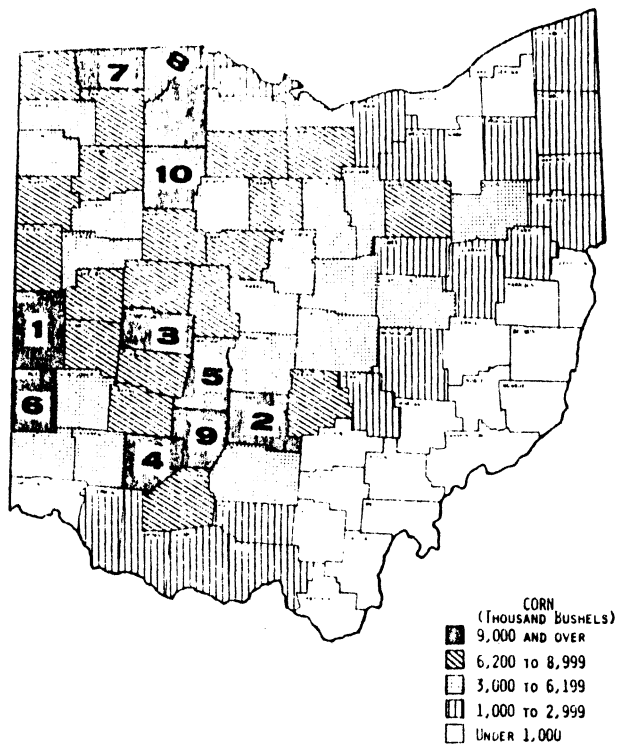
# DISTRIBUTION OF GRAIN PRODUCTION BY COUNTY, 1978

RANK OF FIRST TEN COUNTIES

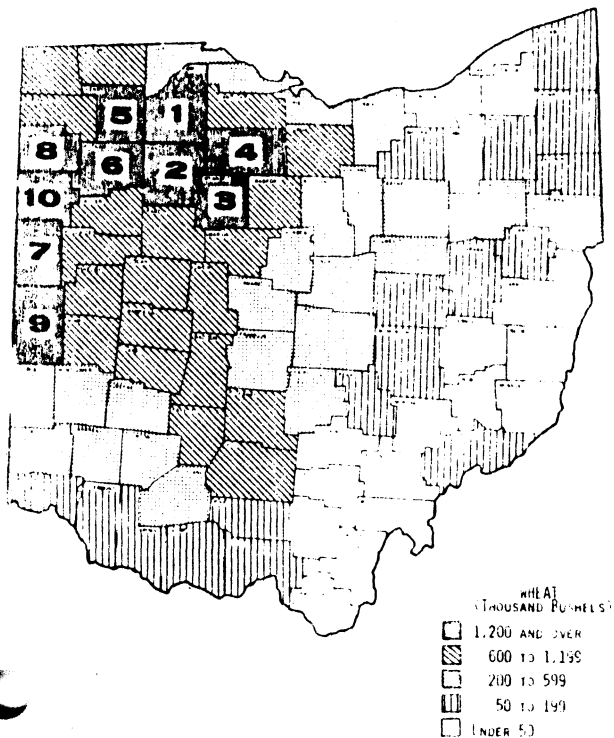
## SOYBEANS



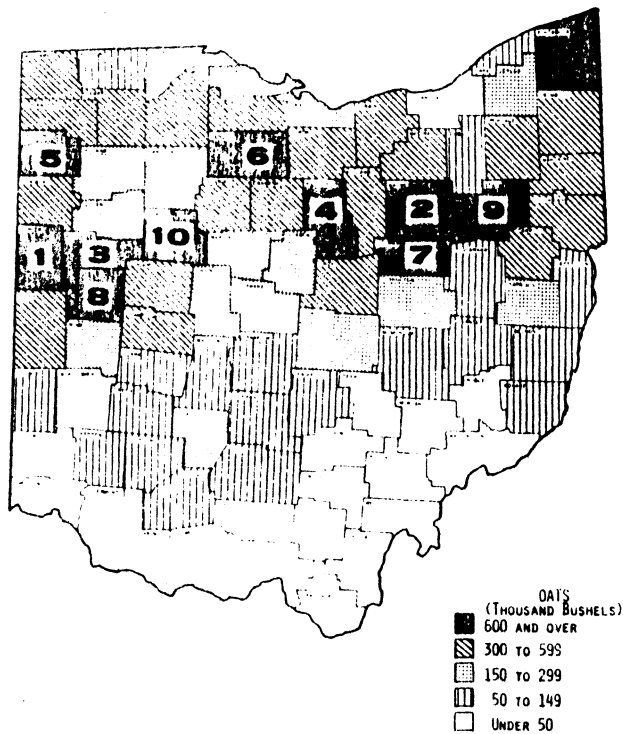
## CORN



## WHEAT

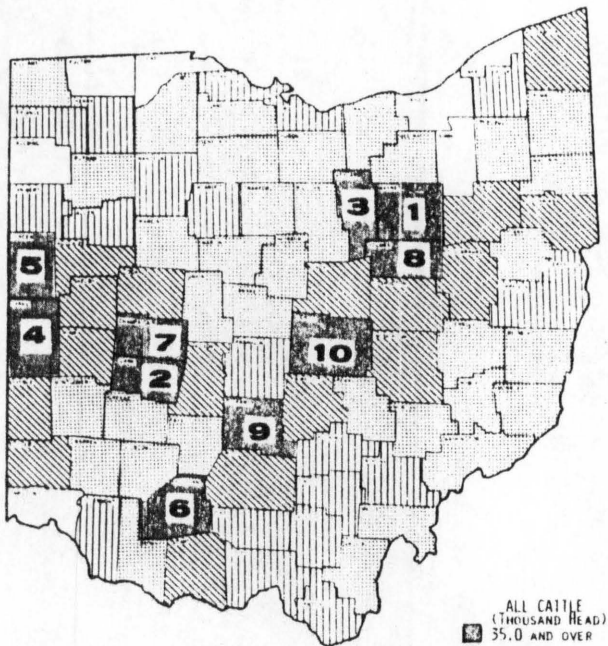


## OATS



RANK OF FIRST TEN COUNTIES

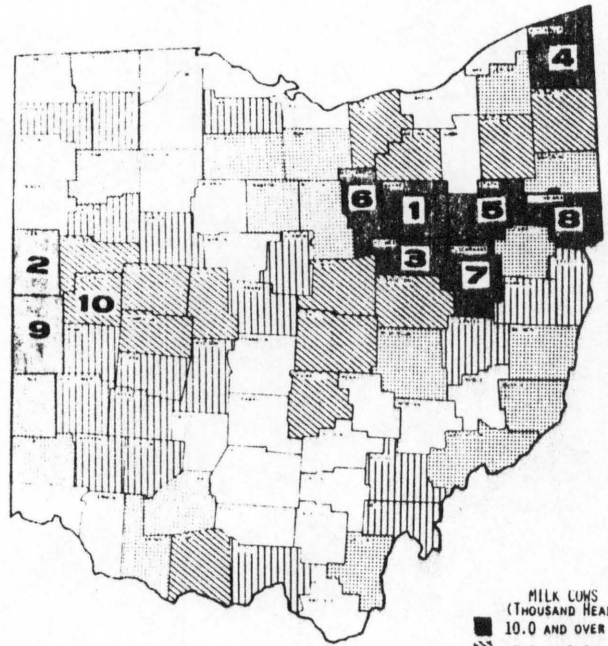
# ALL CATTLE



ALL CATTLE  
(THOUSAND HEAD)

- 35.0 AND OVER
- 25.0 TO 34.9
- 15.0 TO 24.9
- 5.0 TO 14.9
- UNDER 5.0

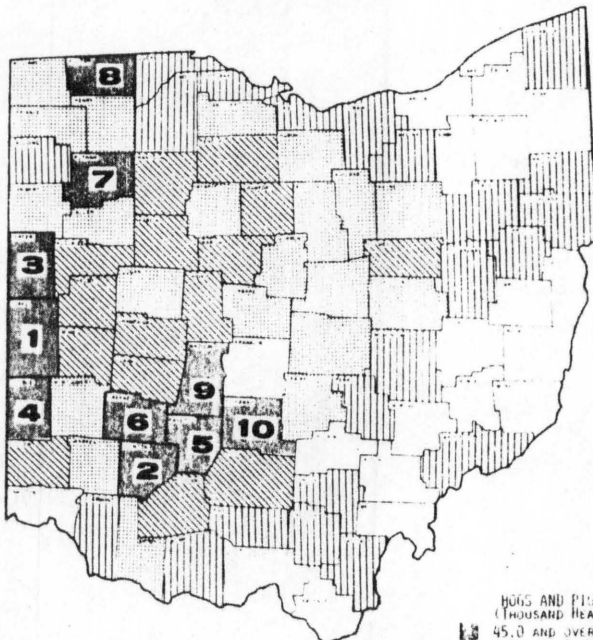
# MILK COWS



MILK COWS  
(THOUSAND HEAD)

- 10.0 AND OVER
- 5.0 TO 9.9
- 3.0 TO 4.9
- 2.0 TO 2.9
- UNDER 1.9

# HOGS & PIGS 1/

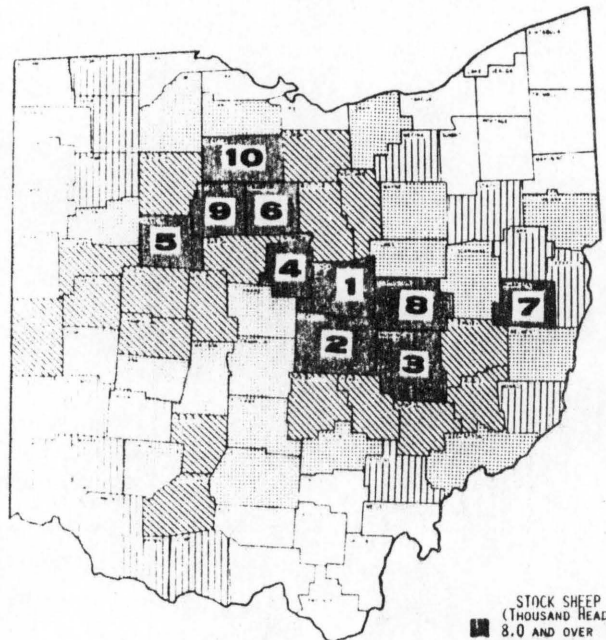


HOGS AND PIGS  
(THOUSAND HEAD)

- 45.0 AND OVER
- 30.0 TO 44.9
- 15.0 TO 29.9
- 3.0 TO 14.9
- UNDER 3.0

1/HOGS AND PIGS AS OF  
DECEMBER 1, 1978

# STOCK SHEEP



STOCK SHEEP  
(THOUSAND HEAD)

- 8.0 AND OVER
- 4.0 TO 7.9
- 2.0 TO 3.9
- 1.0 TO 1.9
- UNDER 1.0

PHYSICAL FACTORS  
LIMIT PRODUCTION POSSIBILITIES

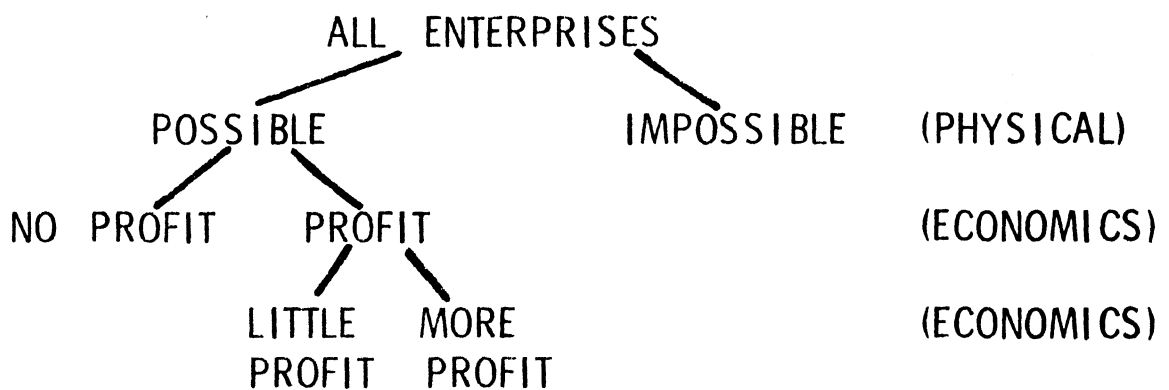
CAN ELIMINATE INFEASIBLE

CANNOT DISCRIMINATE AMONG FEASIBLE

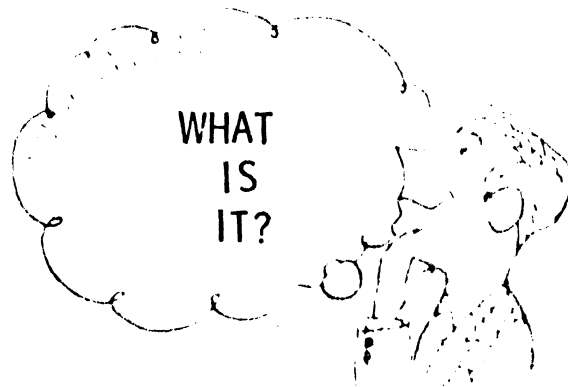
ECONOMIC FACTORS  
DETERMINE FINAL MIX OF ENTERPRISES

CAN SELECT AMONG PHYSICALLY FEASIBLE

PROCESS OF SELECTION



## COMPARATIVE ADVANTAGE



"YOU WILL PRODUCE THOSE PRODUCTS WHERE YOUR PRODUCTION ADVANTAGE IS GREATEST OR WHERE YOUR PRODUCTION DISADVANTAGE IS LEAST."

PRODUCTION NOT NECESSARILY IN AREA OF.

HIGHEST YIELD

HIGHEST PRICE

LOWEST COST

# COMPARATIVE ADVANTAGE IN ACTION<sup>1/</sup>

PRODUCT - LOCATION - YIELDS

PRICES - COSTS

PRODUCT	STATE		
	IOWA	N. Y.	KANSAS
	--yield (price) cost--		
WHEAT	33 (3.10) M	38 (2.90) L	29 (3.00) H
MILK	10,000 (8.70) L	11,000 (9.50) M	10,000 (9.30) H
CORN	93 (2.30) L	80 (2.50) M	91 (2.40) H

<sup>1/</sup> STATE AVERAGES (1974 - 1978) FOR YIELDS AND PRICES  
COSTS LEVELS ESTIMATED

CORN PRODUCED - HIGHEST YIELD  
- LOWEST YIELD  
- LOWEST COST

MILK PRODUCED - HIGHEST YIELD  
- HIGHEST PRICE  
- MEDIUM COST

WHEAT PRODUCED - LOWEST YIELD  
- MEDIUM PRICE  
- HIGHEST COST

# COMPARATIVE ADVANTAGE IN ACTION

## LIVESTOCK NUMBERS

OHIO - 1900 - 1978

	DAIRY COWS	BEEF COWS	SHEEP (1 yr. or more)	HOGS
	(000)	(000)	(000, 000)	(000, 000)
1900	868	87	2.6	
1910	952	142	2.9	
1920	935	137	1.6	
1930	818	39	1.8	3.2
1940	992	59	1.8	4.0
1950	873	138	.8	5.0
1960	640	283	.8	4.3
1970	424	340	.5	4.0
1978	382	388	.2	2.5

# COMPARATIVE ADVANTAGE IN ACTION

## CROP ACRES HARVESTED OHIO 1900 - 1978

	CORN	SOYBEANS	WHEAT	SMALL GRAIN	FRUIT	OTHER VEG.	POTATOES
	(millions)						
1900	3.8	----	3.2	1.2	.44	.11	.17
1910	3.9	----	1.8	1.9	.31	.12	.22
1920	3.8	----	2.9	1.7	.22	.06	.13
1930	3.5	. 1	1.6	1.8	.24	.09	.11
1940	3.4	. 5	1.9	1.1	.16	.09	.09
1950	3.5	. 9	2.2	1.3	.10	.07	.03
1960	3.6	1.4	1.2	1.2	.05	.065	.015
1970	2.9	2.4	1.0	.6	.03	.064	.014
1978	3.8	3.8	1.1	.4	----	.050	.012